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[54] **ARTICLE COMPRISING COMPLEMENTARY CIRCUIT WITH INORGANIC N-CHANNEL AND ORGANIC P-CHANNEL THIN FILM TRANSISTORS**

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[52] **U.S. Cl.** **257/40**; 257/57; 257/59; 257/69; 257/351

[58] **Field of Search** 257/57, 59, 61, 257/69, 350, 351, 369, 40

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[57] **ABSTRACT**

Complementary circuits with inorganic n-channel thin film transistors (TFTs) and organic p-channel TFTs can exhibit advantageous properties, without being subject to some of the drawbacks of prior art complimentary inorganic TFTs or complementary organic TFTs. In preferred embodiments of the invention, the n-channel inorganic TFTs have an amorphous Si active layer, and the p-channel organic TFTs have Δ-hexathienylene (α-6T) active layer. Complementary inverters according to the invention are disclosed, as is an exemplary processing sequence that can be used to manufacture integrated complementary inverters and other complementary circuits according to the invention.

7 Claims, 4 Drawing Sheets